Engineering Program of Study

Prepare for your future in aerospace engineering and robotics through the application of advanced science, math, and technology.

RECOMMENDED COURSE SEQUENCE

1 Principles of Applied Engineering (1 credit) (8th – 10th Grade)
Develop skills needed to create advanced technical drawings and computer aided deigns used during the design and concept process through production.

2 Engineering Science (Intro to Robotics) (1 credit) (10th Grade)
Explore major concepts used to investigate engineering, robotic, and high-tech careers. Employ science, technology, engineering, and mathematical concepts in the solution of real-world challenging situations. VEX EDR and multiple coding styles and languages will be utilized in this course.

3 Drone Engineering (HCTC) (2 credits) (11th - 12th Grade)
The Drone Engineering course is the creative process of solving problems by identifying needs and then devising solutions for unmanned aerial vehicles (UAV) using the engineering design process. Students will focus on software programming of the drone, required hardware, electronic speed controllers, feedback control loops, GPS navigation, brushless DC motor design, and applications of drones. In addition to basics of flight principles, students will also learn all rules and regulations for obtaining the FAA Part 107 Remote Pilot License. Additional opportunities will be provided for students to compete in regional and national competitions.

3 Aerospace Rocket Engineering (HCTC) (2 credits) (11th - 12th Grade)
Develop engineering concepts to meet current aerospace needs. Design, build and operate unmanned aerial vehicles such as hypersonic boost gliders, high performance rockets reaching up to 5 miles.

For more information about CTE Course requirements, view our EMS ISD Course Description Handbook.

**Indicates a TEA approved Advanced*